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ABSTRACT

This study investigated whether differences attributable to sociocultural factors existed in the eating-disorder behaviors and body image perception of Puerto Rican and U.S. college women. Participants (n=440) completed the Eating Disorder Inventory-2 and provided demographic information. Results indicated significant differences between the groups in the areas of body dissatisfaction, perfectionism, interpersonal distrust, and maturity fears. The U.S. group scored significantly higher in body dissatisfaction (body image), and the Puerto Rican group scored significantly higher in the other three areas (psychological factors). The U.S. group scored significantly below the normative group in three traits for eating disorders (body dissatisfaction, perfectionism, and interpersonal distrust). The Puerto Rican group scored significantly below the normative group in the same three traits for eating disorders and in maturity fears. There were significant differences in body dissatisfaction by country and body mass index (BMI). A significant positive correlation occurred between body dissatisfaction and BMI and between drive for thinness and BMI for the U.S. sample. Results suggest that college environments and sociocultural expectations contribute to the manifestation, development, and maintenance of eating-disorder behaviors and misperceptions of body image by emphasizing perfection, competition, and physical attractiveness. (Contains 18 tables and 69 references.) (SM)

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SOCIOCULTURAL DIFFERENCES IN EATING DISORDERED BEHAVIORS AND BODY IMAGE PERCEPTION: A COMPARISON BETWEEN PUERTO RICAN AND AMERICAN COLLEGE WOMEN

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Sociocultural Differences in Eating Disordered Behaviors and Body Image Perception: A Comparison Between Puerto Rican and American College Women

INTRODUCTION

Eating disorders are essentially determined by the individual's desire for an excessively low weight as well as by severe body dissatisfaction. These factors themselves are also influenced by gender, schooling, sociocultural background, personal attitude, respect toward one's own body, self-esteem, and social and mental health. There are multifactorial reasons for the development of disordered eating behaviors. Eating disorders are rising in prevalence, and these are a problem of considerable public health significance. In recent years, clinicians and researchers alike have reported a higher than expected incidence of anorexia nervosa and bulimia nervosa syndromes.

Eating disorders primarily affect females; the role of sexism and physical approval is still a major part of self-concept for females, much more so than for males, and beauty is defined in part, by slenderness. Eating disorders are a great concern on

college and university campuses across the country. The intent of the study was to examine how sociocultural background influences the attitude of Puerto Rican and American college women in the development of eating disorders and in the perception of body image.

Statement of the Problem

The problem of the study was to determine if differences, attributable to sociocultural factors, exist in the incidence of eating-disordered behaviors and body image perception between Puerto Rican and American (US) college women.

Specifically, the study attempted to answer the following research questions:

1. What differences, if any, exist in the development of eating disorders between Puerto Rican and American (US) college women?
2. What is the incidence of the traits for the development of eating disorders, with particular focus in body image perception among college women with different sociocultural background?

Purpose of the Study

This study was designed to investigate the principal determinants in the incidence of eating-disordered behaviors in Puerto Rican and American college women. It is believed there may be differences in the nature of disordered eating behaviors and

the perception of body image between college women with different sociocultural backgrounds. It is hoped that the information obtained in this study will assist in recognizing the behavioral signs and manifestations of eating disorders and misperception of body image among college women.

Justification for the Study

Social-ecological theories emphasize cross-cultural analysis of health problems and related intervention strategies (Stokols, 1996). The need of the study was to provide more knowledge and a better understanding of the role of social and cultural constraints in the development of disordered eating problems and the misperception of body image. The literature is sparse with respect to studies of abnormal eating attitudes and behaviors among Hispanic women in comparison with American women. In a cross-cultural study, Crago, Shisslak, and Estes (1995), found that eating disturbances are equally common among Hispanic and Caucasian females. Risk factors for eating disorders are greater among minority females who are younger, heavier, better educated, and more identified with American, middle-class values.

Several studies (Brush, 1974; Boskind-Lodahl, 1976; Garner et al., 1980; Palazzoli, 1974; Wiseman, et al., 1992)

indicated that sociocultural, developmental, psychological and biological risk factors may all have a part to play in the development of eating disorders. The observed high frequency of eating disorders in Western women may be linked to the strong and pervasive societal pressure toward slimness. The pressure on women to be slim is increasing rapidly in the second half of the twentieth century. These social and cultural forces may act as an important determinant of the perceived increasing incidence of anorexia and bulimia nervosa among vulnerable adolescents (Reiss, 1996).

In addition to social pressure to be thin, the different cultural preferences in body shape may play a role in predisposing the individual to the development of eating disorders. Changing sociocultural pressures may have an effect upon dissatisfaction with body size (Ford et al., 1990). In another study, Reiss (1996) mentioned that the exposure of women from foreign cultures to Western society may lead to the development of pathological eating attitudes and abnormal eating behaviors.

According to H. Galib (personal communication, July 10, 1998), a Puerto Rican gastroenterologist, eating disorders are slowly being transported to the island by young Puerto Rican

women who have been exposed to American cultural values. Historically, the standard of female beauty in Hispanic cultures has been a large body size with curves. More than two decades ago young Puerto Rican women began to change many of their traditional cultural beliefs, and the assimilation of American culture has proceeded at a rapid pace.

The American Anorexia and Bulimia Association (1997), reported that at least five percent of college-age women in the United States suffer from bulimia and one to two percent suffer from anorexia. However, statistics are not available for Puerto Rico. Recommendations for the development of effective preventive programs for eating disorders and the promotion of healthy eating behavior among college women, coupled with adequate sociocultural advice, could result from this type of study.

Hypotheses

The study was designed to test the following hypotheses:

1. There is no significant difference in the body image perception between Puerto Rican and American (US) college women.

2. There is no significant difference in the incidence of the traits for eating disorders between college women with different sociocultural background (American and Puerto Rican).

METHODOLOGY

The problem of the study was to determine if differences, attributable to sociocultural factors, exist in the incidence of eating-disordered behavior and body image perception between Puerto Rican and American (US) college women. The conduct of the study involved the following stages: (a) Arrangement for Conducting the Study; (b) Selection of Subjects; (c) Research Design; (d) Instrumentation; and (e) Data Analysis, as described in this chapter.

Arrangement for Conducting the Study

The study population was drawn from women who attended the University of Puerto Rico, Rio Piedras campus, and Indiana University, Bloomington campus, during the Fall semester 1998. The samples in this study were obtained by a convenience sampling technique, from college women who attended courses in health and education at both universities. The study employed the Eating Disorder Inventory-2 (EDI-2;Garner, 1991) consisting of 91 items (64 original items plus 27 additional items). Only the first 64 items were used in this study in versions in two different languages (e.g., Spanish and English). This self-report inventory allows assessment of a broad range of features common in eating

disorders and body perceptions. Demographic information including age, education, and details of present weight and height was collected as well.

The required Human Subjects Safeguard Clearance Form from Indiana University was obtained, and after consultation with the health education program faculty advisor regarding the feasibility of the proposed study, an information sheet in both Spanish and English versions was prepared. College women at both universities were invited to volunteer for a graduate research study that required the participant to fill a self-report questionnaire dealing with the individual's eating behavior and her body image perception, during regular class time. That participation was entirely voluntary and the results of the study would remain anonymous and confidential. The self-report questionnaire was administered at appropriate facilities (classrooms) in each campus during October, 1998.

Selection of Subjects

All subjects were volunteers enrolled either at the University of Puerto Rico or at Indiana University at the time of the study. A convenience sampling technique was utilized for the recruitment of the subjects. The fundamental criteria for

participation included: (a) subjects were female; (b) one group of subjects belonged to the Puerto Rican cultural background, and the other group of subjects belonged to American cultural background; and (c) subjects attended courses in health and education programs at both universities. The criteria were selected to give the study an external validity factor that would allow the results to be generalized to a population of Puerto Rican, and American (US) college women.

In this study four hundred and forty subjects participated, two hundred and twenty subjects at the University of Puerto Rico and two hundred and twenty subjects at Indiana University.

Research Design

The study utilized a cross-sectional survey design, focussing on the observed differences between two college women groups (American and Puerto Rican) when examining the presence of the traits associated with disordered-eating behaviors and body image perception with the EDI-2 Inventory. The independent variables of the study were sociocultural background (nation), age, status in college, and body mass index. The dependent variables of the study were the eight basic subscales of the EDI-2 (Garner,

1991) associated with body image perception and disordered eating behaviors.

The subjects were chosen by a convenience sampling technique (for the Puerto Rican and American college women groups). To ensure consistency, both groups were presented the EDI-2 self-report inventory in their respective language. Subjects completed a self-report questionnaire that assessed behavior and attitudes associated with disordered eating and body image perception. The EDI-2 self-report questionnaires were administered by the researcher during the Fall semester period.

Two hundred twenty subjects were included in each group. The total number (four hundred forty subjects) reflected the availability of subjects at both institutions, the number of variables studied, and the financial constraints of the researcher.

Instrumentation

The study used the Multi-Dimensional Eating Disorder Inventory-2 (EDI-2: Garner, 1991) consisting 91 items (64 original items plus 27 additional items) only the first 64 items were used in this study, in both Spanish language and English language versions, and ensuring that the questionnaires were linguistically and conceptually equivalent. The EDI-2 is a widely used self-

report measure of symptoms commonly associated with anorexia nervosa and bulimia nervosa. This self-reported measure provides standardized subscales scores on eight dimensions that are clinically relevant to eating disorders. It consists of 64 items presented in a six-point format requiring respondents to answer whether each items applies "always", "usually", "often", "sometimes", "rarely", or "never". The EDI-2 comprised three subscales assessing attitudes and behaviors concerning eating, weight, and shape: (a) Drive for Thinness; (b) Bulimia; and (c) Body Dissatisfaction. In addition, five subscales tapping more general organizing constructs or psychological traits clinically relevant to eating disorders are included: (a) Ineffectiveness; (b) Perfectionism; (c) Interpersonal Distrust; (d) Interoceptive Awareness; and (e) Maturity Fears. Subscales of the EDI-2 have been used to select or define criterion groups in studies of body dissatisfaction, weight preoccupation, and perfectionism.

The EDI-2 subscales are always analyzed separately and never summed to form an overall eating disorder index, because the EDI-2 is used to measure specific eating disorder symptomatology. Each subscale provides a corresponding score, the higher the value of a subscale score, the greater the

manifestation of the trait. Comparisons of data scores obtained from each of the samples with the normative data (e.g., scores for a reference nonpatient college female group) permitted a detailed examination of the magnitude of subscales scores of both groups in relation to those of contemporary college females.

Sociocultural background information was analyzed with independent variables (nation, age, status in college and body mass index) related to the presence or absence of the trait. The Body Mass Index (BMI) was used as an indicator of body weight and is related to the presence of weight problems. BMI was calculated using self-reported height and weight information. Height and weight were self-reported in feet, inches, and pounds, and were converted to meters and kilograms to compute body mass index (weight [kg]/height-squared[m2]).

Analysis of Data

Measures of central tendency were applied to body mass index, age and status in college to describe the scores for each of the eight relevant test dimensions. Descriptive statistics were used to calculate and describe the incidence of each of the traits as well as to determine the frequency of the distribution of both samples for each of the variables. Means in each subscale were compared

between groups, and also to the normative values for the Non-Patient College Females group presented by Garner (1991) and Garner and Olmsted (1986). Differences between means were analyzed using a t-test at a level of significance of 0.05. Associations among nation, age, status in college, and body mass index were analyzed using analysis of variance at a level of significance of 0.05.

In order to test if there is a significant difference in the perception about body image between Puerto Rican and American (US) college women, correlations of age, status in college and body mass index with the three subscales (Drive for Thinness, Body Dissatisfaction, and Bulimia) were tested using the Pearson-Moment correlations at a level of significance of 0.05. To test the hypothesis that there is no significant difference in the incidence of the traits for eating disorders among college women with different sociocultural background, the data also were analyzed with analysis of variance and correlation analysis at level of significance of 0.05.

The Statistical Package for the Social Science (SPSS) was used to perform all statistical tests in this study.

ANALYSIS OF DATA AND DISCUSSION OF RESULTS

The problem of the study was to determine if differences, attributable to sociocultural factors, exist in the incidence of eating-disordered behaviors and body image perception between Puerto Rican and American (US) college women. The study attempted to identify the presence of traits that are critical for the development of eating disorders, in two socioculturally different college women groups. Identification of the traits was performed using the EDI-2 Inventory.

This chapter is organized in the sections that follow: (1) Sample Characteristics; (2) Analysis of Data Using t-tests; (3) Analysis of Data using Analysis of Variance; (4) Analysis of Data Using Correlation Analysis; (5) Description of the Incidence of the Traits for Eating Disorders; (6) Hypotheses Testing, and (7) Discussion of Findings.

Sample Characteristics

A total of four-hundred and forty college women completed the first 64 items of the EDI-2 Inventory: (a) two-hundred and twenty at the Indiana University in the English language version of EDI-2, and, (b) two-hundred and twenty at the University of Puerto Rico in a Spanish language version of the instrument. Additional

information regarding age, ethnic group, status in college (academic level), weight and height was obtained for each participant via a self-reported questionnaire.

Age Distribution

The age distribution of the respondents of this study was characterized as follows: the mean age of the American (US) college women was 21.40 years (SD = 3.97) with a range of 18 to 45 years, and the mean age for Puerto Rican college women was 22.21 years (SD = 4.90) with a range of 18 to 54 years, as shown in Table 1. This difference was not statistically significant.

Table 2 shows the distribution by age group in both samples; some extreme values were found in the age distribution. It was observed the 73.70 % of the American students were 21 years old or younger, while 67.20% of the Puerto Rican students fell in this category. It was observed the 9.10% of the Puerto Rican students were thirty or older, compared with just 4.10% of Americans in this same age group.

Status in College Distribution

Most individuals in this study were in their senior year of college; 40.5% of the Americans, and 43.6% of the Puerto Ricans,

as shown in Table 3. The participants were attending courses in several disciplines not recorded in this study.

Body Mass Index Distribution

Body mass index, the ratio of weight to height-squared, is an useful and popular measure of body proportion, commonly utilized to characterize the nutritional status of an individual (normal, overweight, obese, etc). In this study, the mean BMI for American (US) students was 21.84 (SD = 3.88) with a range of 16.10 - 45.20, while the mean BMI for Puerto Rican students was 22.49 (SD = 4.14) with a range of 16.00 - 41.30, as shown in Table 4.

For purposes of this study the body mass index group distribution was categorized as follows: (a) underweight: less than 20; (b) normal weight: between 20 to 25; and (c) overweight: greater than 25. The American college women were " thinner" than the Puerto Rican females: 37.30% of the American group exhibited BMIs below 20, while just 28.20 % of the Puerto Rican group fell in this category. More than 25% of the students in the Puerto Rico group were in the overweight category, compared to 20% of the American (US) group as shown in Table 5. The BMI distribution was slightly skewed toward higher values in the case of the Puerto

Rican sample. These subgroups were created because one of the objective of this study was to examine subjects at risk with the possibility of develop a preventive health program.

Ethnic Group Classification

An attempt was made to collect information regarding the ethnic group classification of all participants in the study. Subjects were asked to state their ethnic group. Most American college women clearly indicated their ethnic origin (e.g., Caucasian, African-American, Asian, Hispanic). The Puerto Rican females did not specify ethnic origin; subjects generally wrote "Puerto Rican", and did not distinguish between traditional ethnic categories. It appears that American (US) students are normally accustomed to placing themselves in a given ethnic classification in a wide variety of situations. Puerto Ricans, on the contrary, tend to view themselves as a homogeneous group.

Analysis of Data Using t-tests

The t-test is a widely employed, familiar and robust method for identifying differences in the means of sample groups, that permits testing of diverse hypotheses regarding populations of interest in a given study. This technique was applied to the group

data gathered in this study, observing differences in the means of each EDI-2 subscale.

A detailed description of the EDI-2 subscale scores obtained in the study is presented in Table 6. It is important to note that EDI-2 subscores can range between 0 and 21 in the Drive for Thinness, Bulimia, and Interpersonal Distrust subscales, between 0 and 27 in the Body Dissatisfaction subscale, between 0 and 30 in the Ineffectiveness subscale, between 0 and 18 in the Perfectionism subscale, and between 0 and 24 in the Maturity Fears subscale.

Comparison of Means of the American (US) and Puerto Rican College Women Groups

The t-test analysis showed significant differences in the EDI subscale means between American and Puerto Rican college women in four subscales: Body Dissatisfaction, with American (US) females scoring significantly higher, and Interpersonal Distrust, Perfectionism and Maturity Fears, where the Puerto Rican females scored significantly higher. The reader is referred to Table 6, where the means and standard deviations of subscale values for each group are presented. Normative values for a non-patient female college group (Garner, 1991) are presented.

Comparison of Means for American and Puerto Rican College Samples to Normative Value

The means obtained for the individuals in both samples were compared against the normative values for Non-Patient College Females presented by Garner (1991) as shown in Table 7.

The t-test showed that both the American (US) and Puerto Rican sample groups exhibited means which were significantly lower than the normative in the Body Dissatisfaction subscale. The American female group in the study also exhibited significantly lower than normative subscale means in the Perfectionism and Interpersonal Distrust subscales. The Puerto Rican female students scored significantly higher than the normative in the Perfectionism, Interpersonal Distrust and Maturity Fears subscales.

Analysis of Results Using Analysis of Variance

An univariate analysis of variance (ANOVA), to determine existing differences between four independent variables, nation, age, status in college, and body mass index, and the eight subscales of the EDI-2 (dependent variables) was performed. The results of the analysis are summarized in Tables 8 to 15. These subgroups within the sample were created as described previously.

The principal results involve the variable nation; significant differences were observed in the Body Dissatisfaction, Maturity Fears and Interpersonal Distrust subscales. Interpersonal Distrust is significantly different by status in college, and Body Dissatisfaction is significantly different in relation to body mass index category.

Analysis of Data Using Correlation Analysis.

Considering each EDI-2 subscale as a dependent variable; and age, status in college and BMI as independent variables or predictors, a correlation analysis for both the American (US) and Puerto Rican college women group data was performed. The results are presented in Table 16.

For the American (US) college women group, a number of significant correlations were discovered. These correlations are described in the paragraphs that follow:

Drive for Thinness was significantly and positively correlated to body mass index. The greater the body mass index, the greater the score for this subscale. Drive for Thinness was significantly and negatively correlated with age and with status in college. The trait tends to decrease as the individual gets older, and advances in college level.

Bulimia was significantly and negatively correlated to age and status in college. This can be associated to the fact as the individual get older and advances in level of education her weight management improves.

Body Dissatisfaction was significantly and positively correlated with body mass index. The greater the body mass index, the greater the score in this subscale. Body Dissatisfaction was significantly and negatively correlated with age, meaning that as the individual gets older, the body dissatisfaction decreases.

Interoceptive Awareness was significantly and negatively correlated with status in college. Maturity Fears was significantly and negatively correlated with age and with status in college. The trait tends to decrease as individuals get older and advance in college level.

The correlation analysis for the Puerto Rican college women sample revealed that Drive for Thinness, Bulimia, Body Dissatisfaction, Perfectionism, Interpersonal Distrust, Interoceptive Awareness, and Maturity Fears were not significantly correlated with any of the predictors. In this case, only Ineffectiveness was significantly and positively correlated with body mass index. The relationship was positive, indicating that as the individual exhibits

greater body mass index, the tendency is to have greater scores for Ineffectiveness.

Description of the Incidence of the Traits for Eating Disorders

The criterion values obtained for eating-disordered patient groups (Garner, et al., 1986) are presented in Table 17. These values are employed in the EDI-2 Profile Form for purposes of screening in various clinical applications.

Incidence of the Traits for Eating Disorders

Examination of the frequency distribution of subscale scores (tables and histograms) for both study groups allowed a precise determination of the number of subjects that exhibited subscale scores that exceeded (or equal) the clinical criterion values presented previously. A summary of these findings is presented in Table 18. The incidence of eating disorder traits in the sample groups was clearly evident.

The Drive for Thinness trait was found in 14.5% of the American (US) college women, while 9.4% of the Puerto Rican females exhibited high subscale scores in this category. In the Body Dissatisfaction trait, the American group scored particularly high, with 26.8% of the sample exceeding the typical screening criterion. This can be contrasted with the Puerto Rican group,

where just 7% exceeded the criterion.. The incidence of the trait is approximately 3.5 times greater in the American females in this critical subscale.

The Perfectionism trait manifested itself most strongly in Puerto Rican students, with 45.3% exceeding the criterion as compared to 22.9% of the American (US) students. The incidence of the trait is quite high in both groups, but Puerto Ricans exhibit it at approximately twice the rate. The Maturity Fears trait is also strongly present: more than 49% of the Puerto Rican students exceeded the criterion, compared to 25.4% of the American (US) group. Again the incidence rate is approximately doubled for the Puerto Rican females.

Interpersonal Distrust is a trait that is manifest in approximately 25.6% of the Puerto Rican college females, but is hardly evident in the American group, with an incidence rate of just 6.2%. There is a major difference in this case; the Puerto Rican group exhibits this characteristic at nearly four times the rate of the American (US) college group.

The incidence rates in all remaining categories are below 5%, and differences between the two groups are insignificant. The findings can be summarized by observing that in two subscales that

measure perception of the body and its image and the individual's response to it (Body Dissatisfaction, Drive to Thinness), the American (US) females had incidence rates significantly higher than the Puerto Ricans. On the other hand, in three traits related to psychological response to the human condition (Perfectionism, Maturity Fears, Interpersonal Distrust) the Puerto Rican group exhibited much higher incidence rates than the American (US) group.

This findings reinforce those presented in the previous sections; a clear difference between the two groups emerges again in body image perception and in the psychological factors that are explored in the EDI-2 Inventory.

Hypotheses Testing

The first hypothesis stated that there is no significant difference in body image perception between Puerto Rican and American college women. The t-test analysis clearly revealed that significant differences exist between the American (US) and Puerto Rican groups sampled in the Body Dissatisfaction subscale; the American (US) group had a significantly higher mean. The correlation analysis revealed significant and positive correlation between Drive for Thinness and body mass index, and between

Body Dissatisfaction and body mass index for the American college women sample. There was no demonstrated relationship for the Puerto Rican sample in this case. On the basis of these important findings, we can reject this hypothesis.

The second hypothesis investigated in this work stated that there is no significant difference in the incidence of the traits for eating disorders between American (US) college women and Puerto Rican college women. Examination of the frequency distribution data, particularly the determination of the number of individuals that exceeded the clinical criterion for the presence of eating-disorder traits, revealed significant differences in the incidence rate. In particular, the Body Dissatisfaction trait was present in 26.8% of the American sample, and in just 7% of the Puerto Rican group. The Interpersonal Distrust, Perfectionism and Maturity Fears subscales, on the other hand, revealed much higher incidence in the Puerto Rican group. This hypothesis was rejected.

The t-test analysis revealed significant differences between the two groups sampled in four subscales, Body Dissatisfaction, Perfectionism, Interpersonal Distrust, and Maturity Fears. The correlation analysis showed significant and positive correlation between Ineffectiveness and body mass index for the Puerto Rican

sample. There was no demonstrated relationship for the American sample in this situation. Significant and positive correlations between Drive for Thinness and body mass index, and between Body Dissatisfaction and body mass index were presented in the American sample. It is evident that there are substantial differences between the two study groups. The two groups can be clearly differentiated by the EDI-2 Inventory.

Discussion of Findings

This study involved four hundred and forty college women in groups with different sociocultural background. These two groups provide a cross representation of college females from the University of Puerto Rico, Rio Piedras Campus and Indiana University, Bloomington Campus.

Demographic data indicated that the mean age of the American sample group was 21.4 years, and the mean age for Puerto Ricans was 22.2 years. Although this difference in the means was not statistically significant, the examination of the distribution by age groups indicated that the Puerto Rican sample contained more individuals in the "older" range than the American sample. This is consistent with observations that a growing number of Puerto Rican women are returning to the classroom after an

absence as mothers, housewives or simply as participants in the job market.

The body mass index was calculated for each participant of this study. The American (US) college women were significantly "thinner" than the Puerto Rican women. This is an important finding, similar to the findings of other studies that American (e.g., Caucasian) college students showed significantly more concern about weight than other ethnic groups (Altabe, 1996; Akan, & Grilo, 1994). In the descriptive analysis of the incidence of the traits for eating disorders, the American (US) group showed much higher scores than the Puerto Ricans in Body Dissatisfaction. Approximately 27% of the American students exhibited subscale scores (in Body Dissatisfaction) that exceeded the EDI-2 Profile criterion. These students also exhibited an incidence rate of 14.5% in the Drive for Thinness subscale scores. There is a also a strong positive correlation between Body Dissatisfaction and body mass index for this group.

The Puerto Rican females presented a greater tendency to be overweight, in comparison with the Americans (US), but there was not exhibited significant concern with Body Dissatisfaction. There is no correlation between Body Dissatisfaction and body

mass index for this group. This suggests that in the case of Puerto Rican females are more satisfied with their body shape, size and morphology. It is clear, however, that the American females are profoundly concerned about their bodies, and propensity toward unhealthy eating behavior, in their case, may be strongly driven by body dissatisfaction.

A completely different picture emerges when traits such as Interpersonal Distrust, Maturity Fears and Perfectionism are critically examined. The Puerto Rican group clearly exhibited subscale scores that were significantly higher than both the American (US) sample and the published normative group. In addition, the incidence of the traits for each of these characteristics is particularly high: Maturity Fears (49%), Perfectionism (45%) and Interpersonal Distrust (26%). A strong correlation between Ineffectiveness and body mass index was also observed.

A possible explanation for these findings involves the normal upbringing in Hispanic cultures. Traditional values emphasize a closely-knit family group. While this may provide some functional advantages, it can also lead to distrust in others not belonging to the inner circle. The proper development of mature behavior and its responsibilities may be delayed.

Significant, in this case, is the expectation, particularly in Hispanic cultures, that those given the privilege of higher education are expected to perform in a superior manner and lead the way; exaggerated perfectionism may develop as a result.

The high scores of the Puerto Rican women in these subscales, in all likelihood, do not reflect an increased propensity toward eating-disordered behavior. The EDI-2 instrument was developed in the United States, and in that context these high subscale scores would be more meaningful.

Interpersonal Distrust and Maturity Fears are associated with transitional changes between adolescence and adulthood, and that depending on the environment, relationships can be transitory states. The consistency of these results was related with the findings of other studies that employed sociocultural factors as variables. Akan and Grilo (1994) and Yates (1990) suggested that sociocultural differences in dietary habits, family structures, parent-child relationship patterns, and values orientation may influence the development of eating disorders.

The results of this study also support the findings of other studies that suggest the association of several psychological and cognitive traits of eating disorders, such as Body Dissatisfaction

and Perfectionism that are common in young women, with a tendency to develop eating disorders (Thompson, 1996; Cash, & Henry, 1995; Garner, & Garfinkel, 1980).

Sociocultural ideals of thinness may represent a causal factor in the etiology of eating disorders and body image disturbance. According to Thompson (1990), the societal ideal "to be thin" has moved away from a more curvaceous standard to a more "angular" figure. The concern over weight and dissatisfaction with one's body has become so prevalent that it can be considered a normative discontent in women of the American society (Rodin, 1985).

It is interesting to note that the results of this study suggest that for the majority of college women feelings and thoughts about their physical appearance are closely linked to developmental stages as well as temporal transitions to adulthood. These findings also suggest a sense of general inadequacy and lack of control over one's life during this psychosocial developmental stage. Patterns of body dissatisfaction formed in childhood and adolescence persist into adulthood. Sociocultural differences in acceptable body image depend on the societal definition of appropriate body shape and size.

subscale score significantly below the normative group, and Perfectionism, Interpersonal Distrust, and Maturity Fears, with subscale scores significantly above the corresponding normative scores.

3. An analysis of variance indicated significant differences in Body Dissatisfaction by nation and body mass index. Significant differences were found in Interpersonal Distrust by nation and by status in college. Significant differences were found in Maturity Fears by nation.

4. A significant positive correlation was found between Body Dissatisfaction and body mass index for the American (US) sample. A significant positive correlation coefficient was also found between Drive for Thinness and body mass index in this group.

5. A statistically significant negative correlation was found between Bulimia and age and between Bulimia and status in college for the American (US) sample. A statistically significant negative correlation was found between Body Dissatisfaction and age in this group.

6. A significant positive correlation was found between Ineffectiveness and body mass index for the Puerto Rican sample.

The sociocultural pressures concerning physical appearance and thinness, adherence to traditional gender role stereotypes, pressure to achieve and body dissatisfaction are associated with the stressful and semiclosed college campus.

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Findings

Data analysis revealed the following significant findings:

1. Significant differences (in the mean scores) were found between the two college women groups (US and PR) in four subscales of the EDI-2: Body Dissatisfaction, Perfectionism, Interpersonal Distrust, and Maturity Fears. The American (US) group scored significantly higher in Body Dissatisfaction; the Puerto Rican group scored significantly higher in the other three subscales.

2. The analysis revealed that the American (US) group scored significantly below the normative group in three traits for eating disorders: Body Dissatisfaction, Perfectionism, and Interpersonal Distrust. Significant differences were found between the Puerto Rican group and the normative group in four traits for eating disorders: Body Dissatisfaction, with a Puerto Rican group

The correlation analysis for the Puerto Rican sample revealed that Drive for Thinness, Bulimia, and Body Dissatisfaction were not significantly correlated with any of the predictors.

Conclusions

Considering the basic limitations of this study the following conclusions are warranted:

1. Significant differences in eating-disorder trait manifestation, between American (US) and Puerto Rican college women, were found. The EDI-2 Inventory is clearly capable of differentiating the two groups. The American (US) group exhibited significantly higher scores in Body Dissatisfaction, indicating much greater preoccupation with body image, and the ways to maintain it. The Puerto Rican females were significantly more concerned with issues of Perfectionism, Interpersonal Distrust and Maturity Fears, important psychological factors.

2. The incidence of the traits for eating disorders related to body image perception was found to be very high. Utilizing criterion values derived from the observed subscale means of eating-disordered patient group (Garner, 1991), it was found that 27% of the American females in the sample exceeded the Body Dissatisfaction clinical criterion and 14% exceeded the criterion in

the Drive for Thinness subscale. Approximately 10% of the Puerto Rican females exhibited scores above the criterion in Drive for Thinness. These subscales are strong indicators of potential or actual eating-disordered behavior. This finding is consistent with reports from counselors, clinicians and health educators that report incidence rates for eating disorders of between 15% and 20% in American college campuses.

3. The incidence rate of the psychological factors in the EDI-2 Inventory (Interpersonal Distrust, Perfectionism, Maturity Fears) was very high in the Puerto Rican group. The implications of this finding are not clear; the result may reflect a cultural characteristic not directly related to the development of eating-disorders.

4. The existence of these traits for eating disorders in the two groups sampled in this study suggest that college environments and sociocultural expectations contribute to the manifestation, development, and maintenance of eating-disordered behaviors and misperception of body image by emphasizing perfection, competition, and physical attractiveness among college women.

Recommendations for Further Research

Recommendations for further research demonstrated by this study are as follow:

1. The study of eating disorders has not received attention in Puerto Rico. Detailed statistics describing the incidence and type of eating disorders on the island are unavailable. It is critically important for researchers to investigate this problem.

2. Since eating disorder is a pattern of behavior that clearly involves several distinct developmental stages, the best way to study the role of sociocultural factors that influence disordered eating is through detailed longitudinal research.

3. Studies incorporating additional social and cultural variables associated with familial, biological and psychological factors, as well as gender and ethnicity, in body image perception, should be conducted.

4. The impact of mass media is a critical component in the development of unrealistic expectations regarding the ideal female body. This is a major source of concern, and the transportation of such ideas across international boundaries must be examined in greater detail.

5. An investigation of the effect of acculturation in the shift of values associated with the development of eating-disordered behaviors and body image perception would yield critically important information in this domain.

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Table 1
General Characteristics of the Sample by Age

	N	Age (years) Mean	S.D	Range
American (US)	220	21.40	3.97	(18.00 - 45.00)
Puerto Rican	220	22.21	4.90	(18.00 - 54.00)

Table 2
Distribution of Age

Age Group (years)	American (US) Frequency	%	Puerto Rican Frequency	%
< 21	162	73.70	148	67.20
22 - 25	43	19.50	40	18.20
26 - 29	6	2.70	12	5.50
> 30	9	4.10	20	9.10
Total	220	100.00	220	100.00

Table 3
Distribution by Status in College

Status in College	American(US)		Puerto Rican	
	N	%	N	%
Freshman	30	13.60	4	1.80
Sophomore	27	12.30	34	15.50
Junior	58	26.40	64	29.10
Senior	89	40.50	96	43.60
Graduate	16	7.30	22	10.00
Total	220	100.00	220	100.00

Table 4
Characteristics of the Sample by Body Mass Index

		BMI		
	N	Mean	SD	Range
American	220	21.84	3.88	(16.10 - 45.20)
Puerto Rican	220	22.49	4.14	(16.00 - 41.30)

Table 5
Body Mass Index Group Distribution

BMI Group	American (US)		Puerto Rican	
	Frequency	%	Frequency	%
< 20	82	37.30	62	28.20
20 -25	93	42.30	102	46.40
> 25	44	20.00	56	25.50
Total	220	100.00	220	100.00

Table 7
Comparison of EDI-2 Subscales for American (U.S.) and Puerto Rican College Women with Normative (Garner, 1991)

Subscale	Normative		American(US)			Puerto Rican		
	Mean	SD	Mean	SD	Sig.*	Mean	SD	Sig.*
Drive for Thinness	5.50	5.50	5.46	6.06	.928	5.71	5.03	.527
Bulimia	1.20	1.90	1.46	2.62	.147	1.28	2.53	.620
Body Dissatisfaction	12.20	8.30	9.94	7.07	.000*	7.22	4.85	.000*
Ineffectiveness	2.30	3.60	2.00	3.20	.183	2.08	2.87	.284
Perfectionism	6.20	3.90	5.62	4.12	.044*	8.31	3.77	.000*
Interpersonal Distrust	2.00	3.10	1.39	1.97	.000*	3.18	3.16	.000*
Interoceptive Awareness	3.00	3.90	2.66	3.71	.196	3.24	3.60	.336
Maturity Fears	2.70	2.90	2.55	2.85	.448	4.55	3.77	.000*

Note: *denotes significant difference in the given subscale mean in comparison with normative value.

Table 8
ANOVA / Drive for Thinness Subscale by Nation, Age, Status in College, and Body Mass Index

	SS	df	MS	F	Sig. of F*
Nation	46.36	1	46.36	1.50	.221
Age	226.92	3	75.64	2.45	.063
Status	226.88	4	56.72	1.84	.121
BMI	11.66	2	5.83	0.189	.828
Total	511.82	10			

*p <0.05

Table 9
ANOVA/ Bulimia Subscale by Nation, Age, Status in College and Body Mass Index

	SS	df	MS	F	Sig. of F*
Nation	.506	1	.506	.082	.775
Age	23.88	3	7.96	1.29	.277
Status	21.21	4	5.30	.860	.488
BMI	6.58	2	3.29	.534	.587
Total	52.18	10			

*p <0.05

Table 10
ANOVA/ Body Dissatisfaction Subscale by Nation, Age, Status in College, and Body Mass Index

	SS	df	MS	F	Sig. of F*
Nation	152.89	1	152.89	4.76	.030*
Age	229.49	3	76.49	2.38	.070
Status	262.07	4	65.52	2.04	.089
BMI	384.16	2	192.08	5.98	.003*
Total	1028.61	10			

*p <0.05

Table 11
ANOVA/ Ineffectiveness Subscale by Nation, Age, Status in College and Body Mass Index

	SS	df	MS	F	Sig. of F*
Nation	10.16	1	10.16	1.15	.284
Age	58.12	3	19.37	2.19	.088
Status	30.49	4	7.62	.865	.485
BMI	28.51	2	14.26	1.62	.200
Total	127.28	10			

*p <0.05

Table 12
ANOVA/ Perfectionism Subscale by Nation, Age, Status in College and Body Mass Index

	SS	df	MS	F	Sig. of F*
Nation	47.20	1	47.20	3.11	.079
Age	32.19	3	10.73	.707	.549
Status in	51.89	4	12.97	.854	.492
BMI	8.42	2	4.21	.277	.758
Total	139.70	10			

*p <0.05

Table 13
ANOVA/ Interpersonal Distrust Subscale by Nation, Age, Status in College and Body Mass Index

	SS	df	MS	F	Sig. of F*
Nation	53.47	1	53.47	9.66	.002*
Age	12.49	3	4.16	.752	.522
Status	91.02	4	22.75	4.11	.003*
BMI	29.03	2	14.52	2.62	.074
Total	186.01	10			

*p< 0.05

Table 14
ANOVA/ Interoceptive Awareness Subscale by Nation, Age, Status in College and Body Mass Index

	SS	df	MS	F	Sig. of F*
Nation	3.92	1	3.92	.313	.576
Age	40.44	3	13.48	1.07	.359
Status	32.47	4	8.12	.649	.628
BMI	16.42	2	8.21	.656	.520
Total	93.25	10			

*p <0.05

Table 15
ANOVA/ Maturity Fears Subscale by Nation, Age, Status in College and Body Mass Index

	SS	df	MS	F	Sig. of F*
Nation	56.87	1	56.87	5.76	.017*
Age	5.97	3	1.99	.202	.895
Status	15.97	4	3.99	.405	.805
BMI	0 .43	2	.218	.022	.978
Total	78.21	10			

*p <0.05

Table 17

EDI-2 Subscales Means for Eating Disorders Female Patient Group (Garner, & Olmsted, 1986)

Subscale	Criterion point for eating disorder trait
Drive for Thinness	14.50
Bulimia	10.50
Body Dissatisfaction	16.60
Ineffectiveness	11.30
Perfectionism	8.90
Interpersonal Distrust	5.80
Interoceptive Awareness	11.00
Maturity Fears	4.50

Table 18

Incidence of Eating Disorder Traits by Subscale of the EDI-2: American (U.S.) and Puerto Rican College Women Groups

Subscale	American			Puerto Rican		
	N	N	%	N	N	%
Drive for Thinness	214	31	14.49	213	20	9.39
Bulimia	209	6	2.87	213	5	2.35
Body Dissatisfaction	209	56	26.79	212	15	7.08
Ineffectiveness	210	7	3.33	214	5	2.34
Perfectionism	210	48	22.86	203	92	45.32
Interpersonal Distrust	210	13	6.20	215	55	25.58
Interoceptive Awareness	205	10	4.90	207	9	4.35
Maturity Fears	209	53	25.36	214	105	49.07

Note. Incidence of trait for eating disorders is defined as the subject having score higher (or equal integer value) than the criterion value for a given EDI subscale (Garner, & Olmsted, 1986).